REMARKS

Claims 1-30 are pending in the present application.

Entry of the above amendments is earnestly solicited. An early and favorable first action on the merits is earnestly solicited.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Michael K. Mutter (Reg. #29,680) at the telephone number of the undersigned below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

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Attachments

(Rev. 03/27/01)

VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Claims:

The claims have been amended as follows:

6. (Amended) A method according to claim 4 [or 5], wherein the spatial frequency spectrum is calculated on the basis of a central part of the image.

7. (Amended) A method according to [any one of] claim[s] 4[-6], wherein the step of identifying at least two main vectors comprises the partial steps of

localizing in the spatial frequency spectrum positions of peaks that exceed a given threshold value, and

selecting said at least two main vectors on the basis of said positions.

8. (Amended) A method according to [any one of] claim[s] 4[-7], wherein the steps of calculating a spatial frequency spectrum and identifying main vectors therein comprise the partial steps of

changing the direction of a direction vector in steps within an angle range,

calculating at least one absolute value of the two-dimensional Fourier transform for the image on the basis of each such direction vector, and

identifying the absolute values that exceed said threshold value.

11. (Amended) A method according to [any one of] claim[s] 8[-10], wherein the position of each of said peaks is localized by calculation of the center of gravity of the absolute values that exceed said threshold value and that are adjacent to each other in the spatial frequency spectrum.

12. (Amended) A method according to [any one of] claim[s] 7[-11], wherein the partial step of selecting at least two main vectors comprises

letting each position identify a candidate vector (c1-c3),

letting at least one current image transform, which provides a given change in the relationship between two vectors, operate on said candidate vectors (c1-c3), and

selecting as main vectors the candidate vectors that provide a required mutual relationship for said at least one current image transform.

14. (Amended) A method according to claim 12 [or 13], comprising the steps of sequentially letting a series of different current image transforms operate on said candidate vec-tors (c1-c3), at least until a required mutual relationship is achieved between said candidate vectors.

15. (Amended) A method according to [any one of] claim[s] 12[-14], wherein said raster pattern (5) is identified on the basis of the image transform that gave rise to the required relationship between the candidate vectors (c1-c3).

16. (Amended) A method according to claim 12 [or 13], wherein the current image transform is selected on the basis of an earlier image transform that gave rise to the required relationship for a previous image.

17. (Amended) A method according to [any one of] claim[s] 4[-16], wherein said main vectors are selected on the basis of earlier main vectors that were determined for a previous image.

18. (Amended) A method according to claim 4 [any one of the preceding claims], comprising the step of transforming said marks (4) with the main vectors as bases for producing a rotation-corrected image in which rotation of the marks (4) over the plane of the image is essentially eliminated.

20. (Amended) A method according to claim 18 [or 19], comprising the additional steps of

determining the width of the peaks corresponding to the main vectors in a spatial frequency spectrum of said rotation-corrected image, and

compensating for perspective in the rotation-corrected image if the width exceeds a given width value.

21. (Amended) A method according to claim 19 [or 20], wherein the step of compensating for perspective comprises the partial steps of

measuring an inclination variation for the raster pattern along each main vector in the rotation-corrected image,

calculating a perspective transform on the basis of the measured inclination variation, which perspective transform essentially eliminates said inclination variation, and

producing a perspective-corrected image by means of the perspective transform.

24. (Amended) A method according to [any one of] claim[s] 18[-23], comprising the additional steps of

measuring the phase displacement of the rotation-corrected or perspective-corrected image along the respective main vector via Fourier analysis of the rotation-corrected or perspective-corrected image, and

localizing the raster pattern (5) relative to said marks (4) in the image on the basis of the measured phase displacements.

27. A computer-readable computer program product which comprises a computer program with instructions for causing the

computer to implement a method according to [any one of] claim[s] 1[-26].

28. (Amended) A device for position determination, comprising a sensor (14) for producing an image of a partial surface of a surface (2) which is provided with a position code in the form of a plurality of marks (4), each of which is associated with one of a plurality of intersections (6) belonging to a virtual raster pattern (5), and an image-processing means (16) which is arranged to calculate a position for the partial surface based on a subset of the surface (2), the image-processing means (16) being designed to identify the virtual raster pattern (5) in accordance with [any one of] claim[s] 1[-26].

30. (Amended) A device according to claim 28 [or 29], which has a means (19) for wireless transmission of position information.